ONLINE CERTIFICATIONS DIRECTORY

BXUV.U448
Fire Resistance Ratings - ANSI/UL 263
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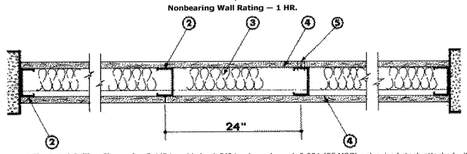
Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. U448
June 13, 2009
Nonbearing Wall Rating — 1 HR.



1. **Floor and Ceiling Channel —** 2-1/2 in. wide by 1-3/8 in. deep channel, 0.021 (25 MSG) galvanized steel, attached with screws spaced 24 in. OC.

2. **Steel Studs —** 2-1/2 in. wide by 1-3/8 in. deep channel sections with 1/4 in. lip on each flange tip, 0.021 in. (25 MSG) galvanized steel studs spaced 24 in. OC.

3. **Batts and Blankets* —** 1-1/2 in. thick mineral wool batts supplied in 2 by 4 ft batts; attached to wallboard with staples 18 in. OC.
ROCK WOOL MANUFACTURING CO — Delta Board.
ROXUL ASIA SDN BHD — (Staples optional).
ROXUL INC — (Staples optional).
THERMAFIBER INC — Type SAFB.

4. **Gypsum Board* —** 1/2 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 0.127 in. diam self-drilling, self-tapping screws, 1 in. long spaced 8 in. OC along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.
AMERICAN GYPSUM CO — Types AG-C.
CERTAINTEED GYPSUM INC — ProRoc Type C.
CERTAINTEED GYPSUM CANADA INC — ProRoc Type C.
CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR.
GEORGIA-PACIFIC GYPSUM L L C — Type C.
LAFARGE NORTH AMERICA INC — Type LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO — Types FSK-C, FSW-C, FSMR-C.
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM — Type PG-C.
PANEL REY S A — Type PRC
TEMPLE-INLAND FOREST PRODUCTS CORP — Type TG-C.
UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR.
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR.

5. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

*Bearing the UL Classification Mark

Last Updated on 2009-06-13

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ONLINE CERTIFICATIONS DIRECTORY

BXUV.U906
Fire Resistance Ratings - ANSI/UL 263
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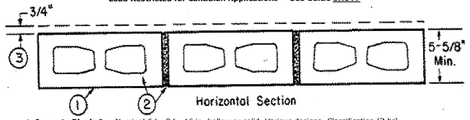
Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. U906
April 07, 2009
Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR.
Load Restricted for Canadian Applications — See Guide BXUV7



1. **Concrete Blocks* —** Nominal 6 by 8 by 16 in, hollow or solid. Various designs. Classification (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.
ANCHOR CONCRETE PRODUCTS INC
GAGNE & SON CONCRETE BLOCK INC
Allowable compressive stress of 57% of max allowable compressive stress in accordance with the empirical design method.
OLDCASTLE APG NE DBA ARTHUR WHITCOMB
WESTBROOK CONCRETE BLOCK CO INC
Allowable compressive stress of 75.6% of max allowable compressive stress in accordance with the empirical design method.

2. **Mortar —** Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster —** Add 1/2 hr to Classification if used. Attached to concrete blocks (Item 1).

4. **Foamed Plastic* —** (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
THE DOW CHEMICAL CO — Type Thermax

*Bearing the UL Classification Mark

Last Updated on 2009-04-07

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ONLINE CERTIFICATIONS DIRECTORY

BXUV.U465
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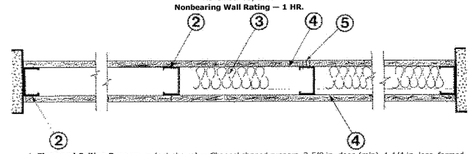
Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. U465
November 03, 2009
Nonbearing Wall Rating — 1 HR.



1. **Floor and Ceiling Runners —** (not shown) — Channel shaped runners, 3-5/8 in. deep (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1A. **Framing Members*— Floor and Ceiling Runners —** (Not shown) — As an alternate to Item 1 - Channel shaped, min 3-5/8 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.
SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

1B. **Framing Members* - Floor and Ceiling Runners —** Not shown - In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CRACO MFG INC — SmarterTrack20™, SmartTrack20™
MARINO\WARE A DIV OF WARE INDUSTRIES
INC — Viper20S™ Track, Viper20D™ Track

1C. **Floor and Ceiling Runners —** (Not shown)—For use with Item 2C- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. **Framing Members*— Floor and Ceiling Runners —** Not shown - In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.015 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CLARKWESTERN BUILDING SYSTEMS INC — CW ProTRAK
DIETRICH INDUSTRIES INC — DIETRICH ProTRAK
DMFCWBS L L C — ProTRAK

2. **Steel Studs —** Channel shaped, 3-5/8 in. deep (min), formed from min No. 25 MSG galv steel spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members*— Steel Studs —** As an alternate to Item 2 - Channel shaped studs, min 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

2B. **Framing Members* - Steel Studs —** Not shown - In lieu of Item 2 — For use with Item 1B, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.
CRACO MFG INC — SmarterStud20™, SmartStud20™
MARINO\WARE A DIV OF WARE INDUSTRIES
INC — Viper20S™, Viper20D™

2C. **Steel Studs —** (As an alternate to Item 2, For use with Item 4E) Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. **Framing Members*— Steel Studs —** As an alternate to Item 2 - For use with Item 1B, channel shaped studs, min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.
CLARKWESTERN BUILDING SYSTEMS INC — CW ProSTUD
DIETRICH INDUSTRIES INC — DIETRICH ProSTUD
DMFCWBS L L C — ProSTUD

3. **Batts and Blankets* —** (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.
See **Batts and Blankets** (BZJZ) category for names of Classified companies.

3A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft^3. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft^3.
U S GREENFIBER L L C — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

3B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) and Item 3A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

4. **Gypsum Board* —** 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to item 6 (resilient channels) or 6A (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.
AMERICAN GYPSUM CO — Types AG-C, AGX-1
BEIJING NEW BUILDING MATERIALS PUBLIC
LTD CO — Type DX9-1.
CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
CERTAINTEED GYPSUM INC — Types 1, EGRG, ProRoc Type X, ProRoc Type C.
CERTAINTEED GYPSUM CANADA INC — ProRoc Type C, ProRoc Type X or ProRoc Type Abuse-Resistant.
GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, D5, GPF5G.
LAFARGE NORTH AMERICA INC — Types LGFC2, LGFC2A, LGFC6, LGFC6A, LGFC-C, LGFC-C/A, LGFC-WD.
NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSV-6.
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM — Type PG-C, PG-11 or PG-9.
PANEL REY S A — Type PRX.
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1
TEMPLE-INLAND FOREST PRODUCTS CORP — Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board.
UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX).
USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4A. **Gypsum Board* —** (As alternate to Item 4) - Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
CERTAINTEED GYPSUM INC — ProRoc Type X, ProRoc Type C.
CERTAINTEED GYPSUM CANADA INC — ProRoc Type X, ProRoc Type C.
GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DAPC, DGG, DS.
LAFARGE NORTH AMERICA INC — Type LGFC6A, LGFC-C/A
UNITED STATES GYPSUM CO — T ype AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, , USGX (Joint tape and compound, Item 5, optional for use with Type USGX).
USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.
CANADIAN GYPSUM COMPANY — Types AR, IP-AR.
UNITED STATES GYPSUM CO — Types AR, IP-AR.
USG MEXICO S A DE C V — Types AR, IP-AR.

4C. **Gypsum Board* —** As an alternate to Items 4, 4A, and 4B - Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered or backed by steel framing.
TEMPLE-INLAND FOREST PRODUCTS CORP — GreenGlass Type X.

4D. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C - Nom. 5/8 in. thick gypsum panels applied horizontally. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Gypsum panels fastened to framing with 1 in. long Type S steel screws 1-1/2 in. from board edges, 3 in. from board edge and every 8 in. OC in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall.
NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSW-C, FSW-G, FSW.

4E. **Gypsum Board* —** (As an alternate to Items 4 through 4D) - Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.
NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board* —** (Not Shown) - (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
RAY-BAR ENGINEERING CORP — Type RB-LBG

5. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. **Resilient Channel —** (Optional-Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May not be used with Item 4F.

6A. **Steel Framing Members (Not Shown)* —** As an alternate to Item 3, furring channels and resilient sound isolation clip as described below:
Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire at each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.
b. **Framing Members* —** Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center portion of the clip. Furring channels are friction fitted into clips.
PAC INTERNATIONAL INC — Type RSIC-1.

6B. **Framing Members* —** Optional - Not Shown - Used as an alternate method to attach resilient channels (Item 6). Clips attached at each intersection of the resilient channel and the steel studs (Item 2). Resilient channels are friction fitted into clips, and then clips are secured to the stud with min. 1 in. long Type S-12 pan head steel screws through the center hole of the clip and the resilient channel.
KEENE BUILDING PRODUCTS CO INC — Type RC Assurance.

7. **Wall and Partition Facings and Accessories* —** (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
QUIET SOLUTION INC — Type QuietRock QR-510.

8. **Lead Batten Strips —** (Not Shown, For Use With Item 4E) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9. **Lead Discs or Tabs —** (Not Shown, For Use With Item 4E) - Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

Last Updated on 2009-11-03

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ONLINE CERTIFICATIONS DIRECTORY

BXUV.U420
Fire Resistance Ratings - ANSI/UL 263

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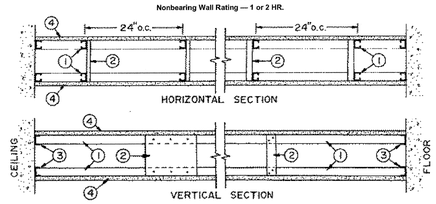
Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. U420
November 18, 2009
Nonbearing Wall Rating — 1 or 2 HR.



1. **Studs —** Channel shaped, min. 1 5/8 in. depth. Fabricated from No. 25 MSG galv steel. Studs to be cut 1/4 in. less than assembly height.

2. **Bracing —** Cut from the steel runners, min. 4-1/4 in. long, fastened to the studs with two No. 8 by 1/2 in. long self-drilling, self-tapping steel screws in each stud. As an alternate, but limits the stud cavity depth to maximum 9-1/2 in., cut from the gypsum wallboard, 9-1/2 in. long and 12 in. wide, fastened to the studs with three Type S wallboard screws in each stud. Vertical spacing of bracing not to exceed 48 in. OC.

3. **Floor and Ceiling Runners —** Channel — shaped 1 5/8 in. wide with 1 in. legs, fabricated from No. 25 MSG galv steel. Attached to floor and ceiling with fasteners spaced 24 in. OC.

4. **Gypsum Board* —** Any 5/8 in. thick gypsum board for fire resistance Classified with beveled, square, or tapered edges.

For 1 Hr Rating — One layer of gypsum board to be used. Applied vertically with joints centered over studs. Fastened to studs with 1 in. long, Type S, gypsum board screws spaced 8 in. OC at the joints, located 3/8 in. from the edges, and 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners.

For 2 Hr Rating — Two layers of gypsum board to be used. The inner layer to be applied in the same manner as for the 1 Hr Rating. The outer layer to be fastened to the studs (through the inner layer) using 1 5/8 in. long, Type S, wallboard screws spaced 8 in. OC at the joints, located 3/8 in. from the edges and 12 in. OC in the field.

Fasteners to be spaced 8 in. OC at the runners. Joints to be staggered 24 in. from the inner layer.

See Gypsum Board (CKNX) category for names of manufacturers.

4A. **Gypsum Board* —** (As alternate to Item 4) - Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (2-hr system) staggered one stud cavity. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed with steel framing. Horizontal edge joints and horizontal butt joints in adjacent layers (2-hr system) staggered a minimum of 12 in. For the single layer system, panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when applied vertically. For the double layer system, base layer panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 16 in. Face layer panels attached to steel studs and floor runner with 1-5/8 in. long Type S steel screws spaced 16 in. OC.
CANADIAN GYPSUM COMPANY — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) - Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.
CANADIAN GYPSUM COMPANY — Types AR, IP-AR.
UNITED STATES GYPSUM CO — Types AR, IP-AR.
USG MEXICO S A DE C V — Tvpes AR. IP-AR.

4C. **Gypsum Board* —** (As an alternate to Items 4 through 4B) - Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.
NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4D. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 4 through 4C) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
QUIET SOLUTION INC — Types QuietRock ES, QuietRock 527.

5. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads. Paper tape, 2 in. wide, embedded in first layer of compound over all joints.

6. **Batts and Blankets* —** (Optional, not shown) Glass fiber batts may be installed in the interior or wall cavity. The max thickness of the batts shall be 2 1/2 in. for the walls with 2 Hr assembly ratings and 3 1/2 in for the walls with 1 Hr assembly ratings. Attached to wallboard with wire staples spaced horizontally 12 in. OC and vertically 24 in. OC.
CERTAINTEED CORP
GUARDIAN FIBERGLASS INC
JOHNS MANVILLE INTERNATIONAL INC
OWENS CORNING

6A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 6) — Spray applied cellulose insulation material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft^3. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft^3.
U S GREENFIBER L L C — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

6B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 6) and Item 6A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

7. **Cementitious Backer Units* —** (Optional Item Not Shown - For Use On Face Of 1 Hr Or 2 Hr Systems With All Standard Items Required) - 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing. 2-Hr System - Applied vertically with vertical joints centered over studs. Face layer fastened over gypsum board to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC.
NATIONAL GYPSUM CO — Type PermaBase

*Bearing the UL Classification Mark

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